

EZ Connect™

802.11a Wireless Access Point

- ◆ Protocol-independent networking functionality
- ◆ 54Mbps data rate per channel (up to 72 Mbps in turbo mode): offers a high data rate and reliable wireless connectivity with considerable cost savings over wired LANs
- ◆ Coverage area up to 1650 feet
- ◆ Seamless connectivity to wired 10/100Mbps Ethernet LANs augments existing networks quickly and easily
- ◆ 64/128/152-bit Wired Equivalent Privacy (WEP) support
- ◆ Omni-directional antenna
- ◆ Easy installation



EZ Connect™

User Guide

From SMC's EZ line of low-cost workgroup LAN solutions

SMC®

Networks

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December 2001

Part No: 01-111320-006

Pub #: 150000013800AR01

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COMPLIANCES

FCC - Class B

FCC ID: HEDACCWA5001

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with instructions, may cause harmful interference to radio communications. However, there is no guarantee that the interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

Industry Canada - Class B

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the interference-causing equipment standard entitled "Digital Apparatus," ICES-003 of the Department of Communications.

Cet appareil numérique respecte les limites de bruits radioélectriques applicables aux appareils numériques de Classe B prescrites dans la norme sur le matériel brouilleur: "Appareils Numériques," NMB-003 édictée par le ministère des Communications.

EZ CONNECT™

802.11A WIRELESS ACCESS POINT

INTRODUCTION

SMC's EZ Connect 802.11a Wireless Access Point (SMC2755W) is an access point that provides transparent, wireless high speed data communications between the wired LAN (and/or within the wireless network) and fixed, portable or mobile devices equipped with a 802.11a wireless adapter (such as SMC2735W) employing the same radio modulation.

This solution offers fast, reliable wireless connectivity with considerable cost savings over wired LANs (which include long-term maintenance overhead for cabling). Using this new 802.11a technology, the EZ Connect Wireless Access Point can easily replace a 10Mbps Ethernet connection or seamlessly integrate into a newer 10/100 Ethernet LAN.

Package Checklist

The EZ Connect 802.11a Wireless Access Point package includes:

- One EZ Connect Wireless Access Point (SMC2755W)
- One 3.3 V DC power adapter
- One installation CD-ROM which includes User Guide and the 802.11a Utility Program
- This User Guide

Please register this product and upgrade the product warranty at www.smc.com.

Please inform your dealer if there are any incorrect, missing or damaged parts. If possible, retain the carton, including the original packing materials. Use them again to repack the product in case there is a need to return it.

Hardware Description

Ethernet Compatibility

SMC's Wireless Access Point can attach directly to 10BASE-T/100BASE-TX (twisted -pair) Ethernet LAN segments. These segments must conform to the IEEE 802.3 specification.

The Access Point appears as an Ethernet node and performs a routing function by moving packets from the wired LAN to remote workstations on the wireless infrastructure.

Radio Characteristics

The Wireless Access Point uses a radio modulation technique known as Orthogonal Frequency Division Multiplexing (OFDM), and a shared collision domain (CSMA/CA). It operates at the 5GHz Unlicensed National Information Infrastructure (UNII) band with turbo mode. Data is transmitted over a half-duplex radio channel operating at up to 72 Megabits per second (Mbps) in the turbo mode, and with a maximum operating range up to 1650 feet.

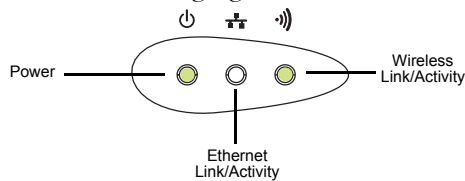
Applications

The EZ Connect Wireless products offer a high speed, reliable, cost-effective solution for 10/100Mbps wireless Ethernet client access to the network in applications such as:

- **Remote access to corporate network information**
E-mail, file transfer and terminal emulation
- **Difficult-to-wire environments**
Historical or old buildings, asbestos installations and open areas where wiring is difficult to employ
- **Frequently changing environments**
Retailers, manufacturers and banks which frequently rearrange the workplace or change location
- **Temporary LANs for special projects or peak times**
Trade shows, exhibitions and construction sites which need temporary setup for a short time period. Retailers, airline and shipping companies which need additional workstations for a peak period. Auditors who require workgroups at customer sites.
- **Access to databases for mobile workers**
Doctors, nurses, retailers, or white-collar workers who need access to databases while being mobile in a hospital, retail store or an office campus.
- **SOHO (Small Office and Home Office) users**
SOHO users who need easy and quick installation of a small computer network.

LED Indicators

The Wireless Access Point includes three status LED indicators, as described in the following figure and table.



LED	Status	Description
Power	On	Indicates the power is being supplied.
	Flashing	Indicates - <ul style="list-style-type: none">• running a self-test• loading software program• system errors (refer to “Troubleshooting” on page 36 for details)
Ethernet Link/Activity (Green)	On	Indicates a valid 100Mbps Ethernet cable link.
	Flashing	Indicates that the Access Point is transmitting or receiving data on the 100Mbps Ethernet LAN. Blinking rate is proportional to your network activity.
Ethernet Link/Activity (Amber)	On	Indicates a valid 10Mbps Ethernet cable link.
	Flashing	Indicates that the Access Point is transmitting or receiving data on the 10Mbps Ethernet LAN. Blinking rate is proportional to your network activity.
Wireless Link/Activity	On	Indicates a valid wireless link.
	Very Slow Flashing	Searches for network association.
	Slow Flashing	Associated with network but no activity.
	Fast Flashing	Indicates that the Access Point is transmitting or receiving data through wireless links. Blinking rate is proportional to your network activity.

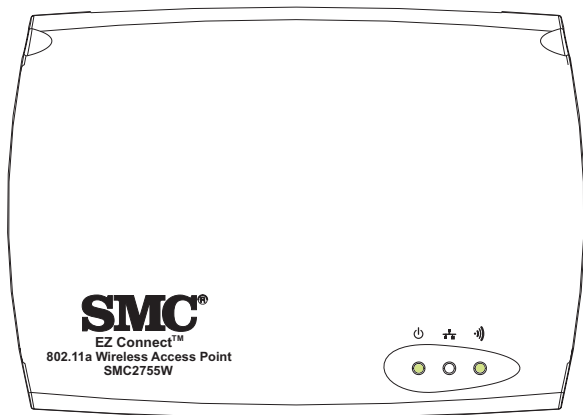
System Requirements

Before you install the Wireless Access Point, be sure you can meet the following requirements:

- An A/C power outlet (100~240 V, 50~60 Hz) which will supply power for the Access Point
- An available RJ-45 (UTP) port on a 10/100Mbps Ethernet hub or switch
- 802.11a compliant wireless Ethernet adapters with TCP/IP compatible protocol installed
- Web browser for configuration

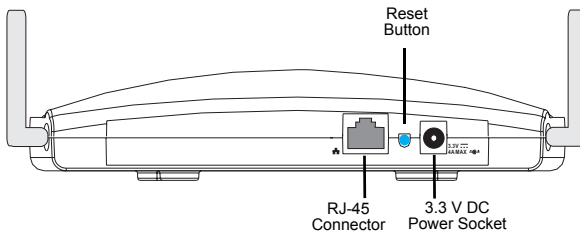
HARDWARE INSTALLATION

SMC2755W - Top Panel



1. Select the Site – Choose a proper place for your SMC2755W Wireless Access Point. In general, the best location is at the center of your wireless coverage area, within line of sight to all wireless devices.
2. Placement of the Wireless Access Point – Proper placement will improve performance. Try to place the Access Point in a position that can best cover its BSS (refer to page 34). Normally, the higher you place the antenna, the better the performance.

SMC2755W - Rear Panel



3. Connect the Ethernet Cable – The SMC2755W can be wired to a 10/100Mbps Ethernet through a network device such as a hub or a switch. Connect to the RJ-45 connector socket on the back panel with category 3, 4 or 5 UTP Ethernet cable and an RJ-45 connector.
4. Connect the Power Cable – Connect the power adapter cable to the 3.3 V DC power socket on the rear panel.

Warning: USE ONLY the power adapter supplied with the SMC2755W. Otherwise, the product may be damaged.

SYSTEM CONFIGURATION

The CD-ROM that comes with the package contains a utility program for the EZ Connect Wireless Access Point. Any updates can be downloaded from SMC's Web site at:

<http://www.smc.com>

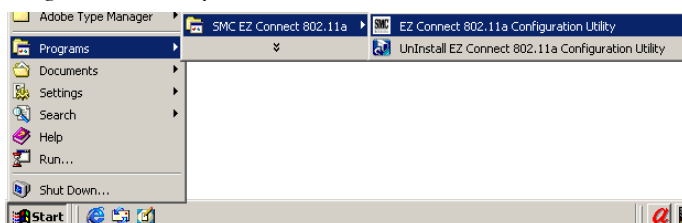
Note: Check the SMC website for more support options (See “Troubleshooting” on page 36). You can access the online support options at:

http://www.smc.com/index.cfm?action=tech_support_support_tools

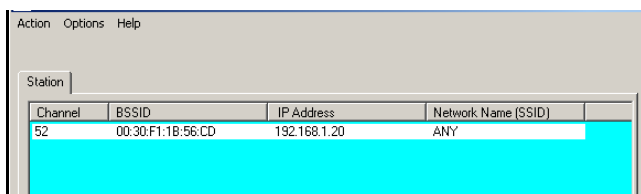
The SMC2755W can be configured over an Ethernet network using RJ-45 cable. You may connect the SMC2755W to a network device such as a hub or switch. Then, run the utility program, and configure the SMC2755W remotely as described below.

Windows Installation (98/2000/Me/NT/XP)

1. Insert the CD-ROM that comes with the package into the CD-ROM drive on your PC, and then enter the following command: "D:\utility\setup." Follow the on-screen instructions to install the utility program.
2. After you finish the installed utility, choose "Programs," then "SMC EZ Connect 802.11a," and select "EZ Connect 802.11a Configuration Utility," from the "Start" menu.



3. The program will then detect all the SMC2755W Wireless Access Point(s) on the network. (Default SMC2755W IP address is "192.168.1.20".)



4. If DHCP is turned "ON" (default setting is "Disable," page 21) and a DHCP server is located on the network, then the Access Point will automatically be assigned an IP address when booted. From the list of detected devices (see the above screen), select and double-click on the unit you want to configure.

5. The Web management window will appear.

You can also manually launch a web browser from a PC and enter the IP address that is assigned to the SMC2755W. The SMC2755W 802.11a AP Web-based configuration page will be displayed.

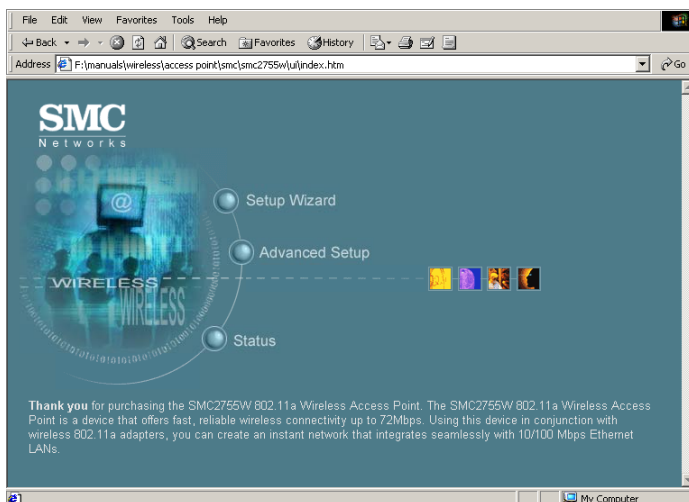
Setup Wizard

1. To access the Access Point's management interface, enter the username "Admin" with a password "5up" and click "Login."

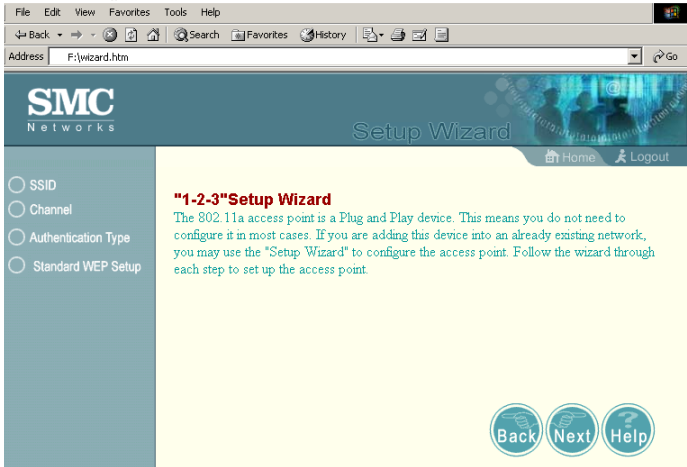


The image shows a login window titled "LOGIN USER ID & PASSWORD". It has a yellow background. There are two input fields: "Username:" and "Password:". Below the "Password:" field are two buttons: "LOGIN" and "CANCEL". At the bottom of the window, there is a red text message: "Please enter Username and Password."

2. The home page displays the Main Menu on the screen.



- Click on “Setup Wizard” to display basic configurations including SSID, Channel, Authentication Type and Standard WEP Setup.



- Click on the “Next” button to start using the “1-2-3 Setup Wizard.”

SSID – The Service Set ID. This should be set to the same value as other wireless devices in your network. (Default: ANY)

Note: The SSID is upper/lower case sensitive and can consist of

up to 32 alphanumeric characters.

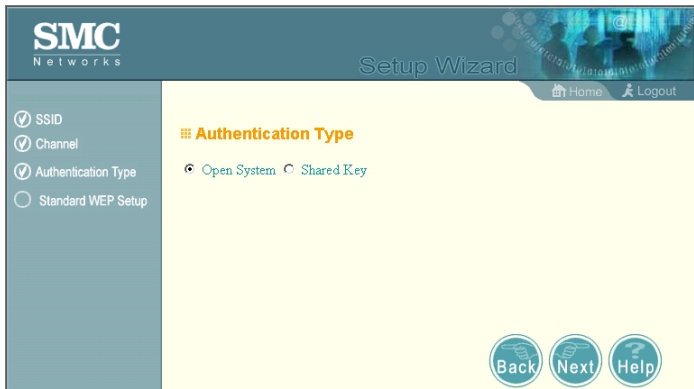
The screenshot shows the SMC Networks Setup Wizard interface. On the left, a sidebar contains four radio button options: SSID (checked), Channel, Authentication Type, and Standard WEP Setup. The main content area is titled 'SSID' and includes the instruction 'Set the SSID (Service Set Identification) of the access point.' Below this, there is a text input field labeled 'SSID:' with the value 'ANY' entered. At the bottom right of the main area are three circular buttons: 'Back', 'Next', and 'Help'. The top of the page features the SMC Networks logo and the title 'Setup Wizard', along with 'Home' and 'Logout' links.

Channel – You can select “Enable” to have the Access Point operating in turbo mode with data rate up to 72 Mbps.
(Default: Disable)

The screenshot shows the SMC Networks Setup Wizard interface for the 'Channel' configuration step. The sidebar on the left now has 'Channel' checked, while 'SSID' is unchecked. The main content area is titled 'Channel' and displays 'Turbo Mode: Disable' with radio buttons for 'Disable' (selected) and 'Enable'. The 'Back', 'Next', and 'Help' buttons are at the bottom right. The top of the page shows the SMC Networks logo, 'Setup Wizard' title, and 'Home' and 'Logout' links.

Authentication Type – Click on the “Shared Key” radio button to start filtering the frames with the addresses defined

in the “Standard WEP Setup” screen. (Default: Open System)



Standard WEP Setup – For more secure data transmission, click on the “Enable” radio button to ensure wireless network security. Then select one shared key (1 ~ 4) and the proper key size. (WEP Default: Disable)

The screenshot shows the 'Standard WEP Setup' screen in the SMC Networks Setup Wizard. On the left is a sidebar with navigation links: SSID, Channel, Authentication Type, and Standard WEP Setup (which is selected). The main area has a title 'Standard WEP Setup' and two configuration options: 'WEP' with radio buttons for 'Disable' (selected) and 'Enable WEP', and 'Default Shared Key' with radio buttons for keys 1, 2, 3, and 4. Below these is a table with four rows for 'Shared Key 1' through 'Shared Key 4'. Each row has an 'Encryption Key' input field and a 'Key Size' dropdown menu, all currently set to '64 bit'. At the bottom right are three circular buttons: 'Back', 'Finish', and 'Help'.

Shared Key	Encryption Key	Key Size
Shared Key 1:	<input type="text"/>	64 bit
Shared Key 2:	<input type="text"/>	64 bit
Shared Key 3:	<input type="text"/>	64 bit
Shared Key 4:	<input type="text"/>	64 bit

Wired Equivalent Privacy (WEP) is implemented in this device to prevent unauthorized access to your wireless network. The WEP setting must be the same on each client in your wireless network.

64-Bit Manual Entry

Key 1~4 - Each Key ID contains 10 HEX digits. All wireless devices must have the same Key ID values to communicate.

128-Bit Manual Entry

Key ID contains 26 HEX digits. All wireless devices must have the same Key ID values to communicate.

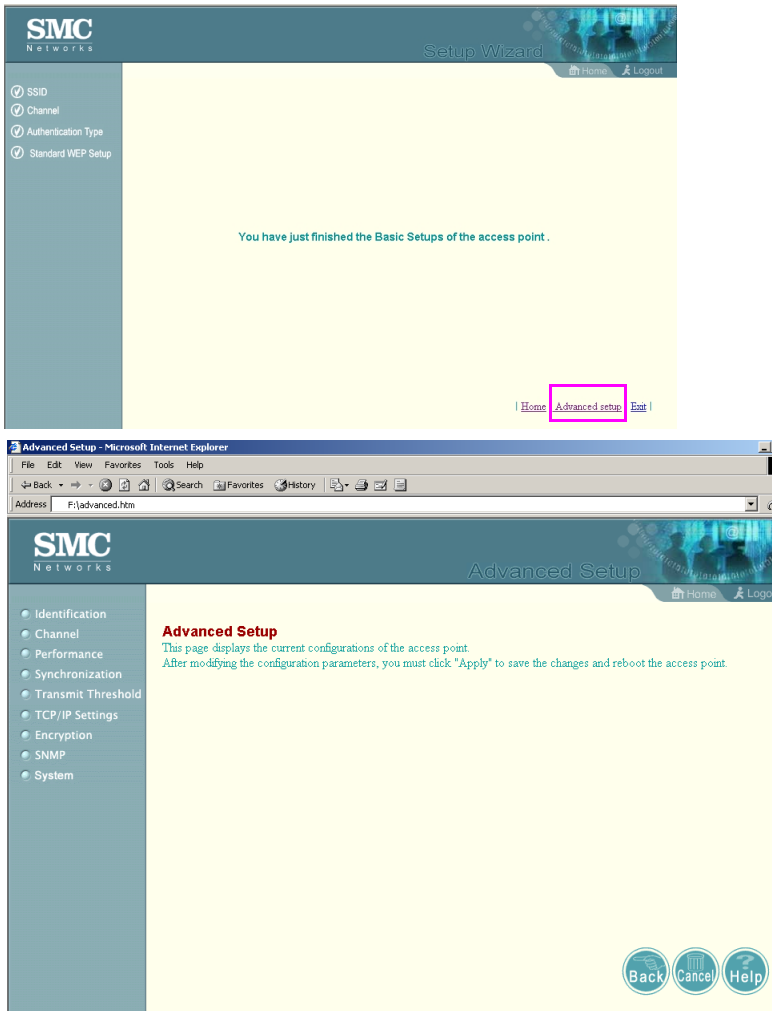
152-Bit Manual Entry

Key ID contains 32 HEX digits. All wireless devices must have the same Key ID values to communicate.

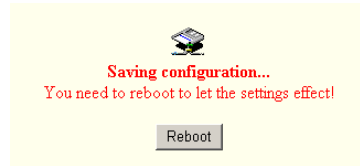
5. Click on the “Finish” button when completed.

Advanced Setup

Click the “Advanced setup” on the right bottom corner to display additional information about the Access Point configuration as shown below:

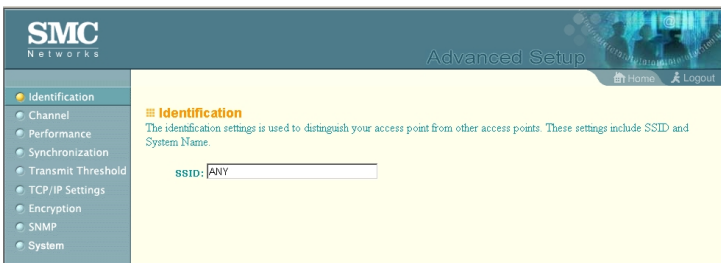


Note: The “Advanced Setup” screen allows you to view and change the current configurations of the Access Point. After modifying the configuration parameters, you must click on the “Apply” button to save the changes. The new settings will not take effect until you click “Apply” to refresh the Access Point. Then you need to click “Reboot” button to reboot the access point. The web browser loses connectivity with the AP web server as the access point reboots. To establish a network connection to the rebooted access point, wait until it has completed rebooting.



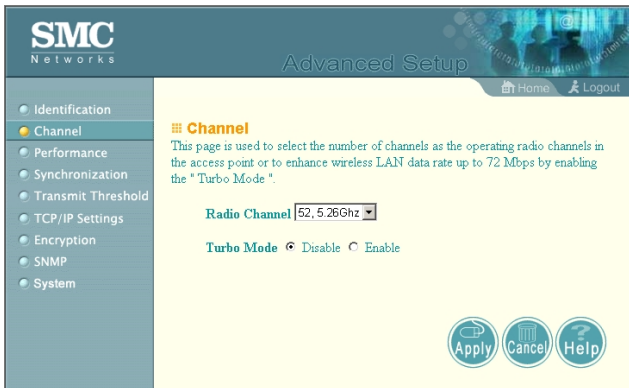
Identification

The SSID (Service Set Identification) is the name of a basic service set provided by an Access Point. All clients that want to connect to the Internet via an Access Point must set their SSIDs as the same as that of the Access Point.



SSID: The Service Set ID. This should be set to the same value as other wireless devices in your network. (Default: ANY).

Channel



Radio Channel: The radio channel through which the Access Point communicates to PCs in its BSS. (Default: “52” for US and “38” for Japan) Note that the DC channel for wireless clients is automatically set to the same as that used by the Access Point to which it is linked.

Note: The available channel settings are limited to local regulations, which determine the number of channels that are available.

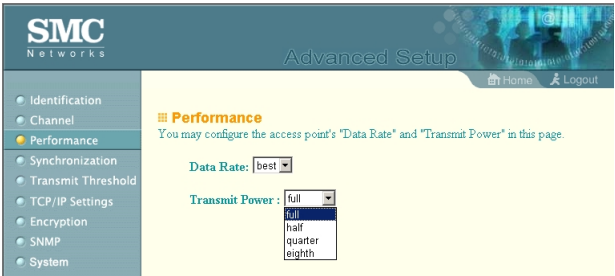
- FCC: 8 channels
- MKK: 5 channels

Turbo Mode: You may either “Enable” or “Disable” the “Turbo Mode.” (Default: Disable)

The “Turbo Mode” is the enhanced wireless LAN operating mode (not regulated in the standard IEEE 802.11a) that can provide a higher data rate. The “Normal Mode” of the 802.11a access point provides connections up to 54 Mbps. Enabling the “Turbo Mode” on the 802.11a Access Point allows the AP to provide connections up to 72 Mbps data rate.

Note: During “Normal Mode,” the channel bandwidth is 20MHz. During “Turbo Mode,” the channel bandwidth is increased to 40MHz. However, there will only be three channels available when the “Turbo Mode” is enabled (Only 1 channel in Japan).

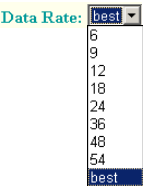
Performance



Data Rate: Select “best” from the drop-down list to optimize the data transfer speed for your network. (Default: best)

Transmit Power: Set the signal strength transmitted from the Access Point. The longer transmission distance, the higher transmission power required. (Default: full)

Selections - “full,” “half,” “quarter” and “eighth”



Synchronization

In order to obtain transmission, the Access Point and connected clients need to be synchronized.

The screenshot shows the SMC Networks Advanced Setup interface. On the left is a navigation menu with options: Identification, Channel, Performance, Synchronization (selected), Transmit Threshold, TCP/IP Settings, Encryption, SNMP, and System. The main content area is titled 'Synchronization' and contains a description: 'Synchronization between the access point and the clients that associate with it. In order to obtain transmission, the access point and clients associated need to be synchronized'. Below this are two input fields: 'Beacon Interval (20-1000):' with a value of '100' and 'DTIM (1-16384):' with a value of '1'. At the bottom right are three buttons: 'Apply', 'Cancel', and 'Help'.

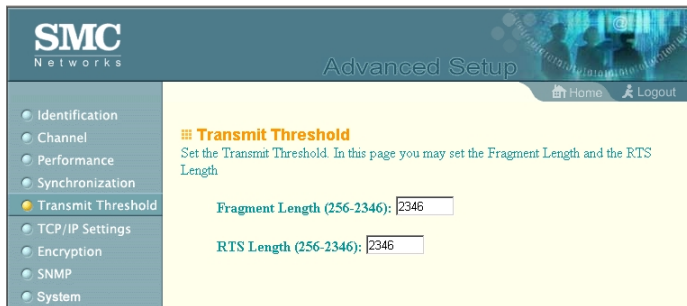
Beacon Interval (20-1000): Set the interval value of beacon between synchronized frames. These synchronous frames also contain indication of frames that need to transmit to the power-saved stations. (Default: 100)

DTIM (1-16384): Set the Delivery Traffic Indication Message (DTIM) interval value. The DTIM indicates how often the MAC layer forwards multicast traffic. This parameter is necessary to accommodate stations using Power Save mode. In order to maximize the utilization of channels, broadcast data is not transmitted every beacon for stations in Power Save mode. These power-saved stations must wake up to receive broadcast data at the DTIM interval.

The DTIM is the interval between two synchronous frames with broadcast information. If you set the value to 2, the access point will save all multicast frames for the BSS and forward them after every second beacon. Having smaller DTIM intervals delivers multicast frames in a more timely manner, causing stations in Power Save mode to wake up more often and drain power faster. Having higher DTIM values, though, delays the transmission of multicast frames.

(Default: 1)

Transmit Threshold



The screenshot shows the 'Advanced Setup' page for an SMC Networks device. On the left is a navigation menu with options: Identification, Channel, Performance, Synchronization, Transmit Threshold (selected), TCP/IP Settings, Encryption, SNMP, and System. The main content area is titled 'Transmit Threshold' and includes the instruction: 'Set the Transmit Threshold. In this page you may set the Fragment Length and the RTS Length'. There are two input fields: 'Fragment Length (256-2346):' with the value '2346' and 'RTS Length (256-2346):' with the value '2346'. The top of the page features the SMC Networks logo and a header with 'Advanced Setup', 'Home', and 'Logout' links.

Fragment Length (256-2346): The “Fragment Length” can be set between 256 and 2,346. If the packet size is smaller than the preset Fragment size, the packet will not be segmented.

Fragmentation of the PDUs can increase the reliability of transmission because it increases the probability of a successful transmission due to smaller frame size. If there is significant interference present or collisions due to high network utilization, try setting the fragment size to send smaller fragments. This will enable the retransmission of smaller frames much faster. However, it is more efficient to set the fragment size larger if very little or no interference is present because it requires overhead to send multiple frames. (Default: 2346)

RTS Length (256-2346): Set the RTS (Request to Send) frame length.

You may configure the access point to initiate an RTS frame sequence always, never, or only on frames longer than a specified length. If the packet size is smaller than the preset RTS threshold size, the RTS/CTS mechanism will NOT be enabled

The access point sends request to send (RTS) frames to a particular receiving station to negotiate the sending of a data frame. After receiving an RTS, the station send a CTS (Clear to Send) frame to acknowledge the right for the sending station to send data frames. The access point contending for the medium may not be aware of each other. The RTS/CTS mechanism can solve this “Hidden Node Problem.” (Default: 2346)

TCP / IP Settings

SMC Networks Advanced Setup

Home Logout

- Identification
- Channel
- Performance
- Synchronization
- Transmit Threshold
- TCP/IP Settings**
- Encryption
- SNMP
- System

TCP / IP Settings

Transmission Control Protocol/Internet Protocol (TCP/IP) is the most popular network protocol. On a TCP/IP network, you must provide settings in order to accessing the Internet, like IP address, Default Gateway, ...etc.

DHCP Client

DHCP Client: ☒ Disable ☐ Enable

IP Address:	192.168.1.20
Subnet Mask:	255.255.255.0
Default Gateway:	192.168.1.254

DHCP Server

☐ Enable ☒ Disable

IP Range:	
Default Gateway:	
DNS Server:	

Set the TCP/IP configuration for accessing the Internet.

With *DHCP Client* “Enable,” the IP address, subnet mask and default gateway can be dynamically assigned to the Access Point

by the network DHCP server. (Default: Disable)

Note: If there is no DHCP server on your network, then the access point will automatically start up with its default IP address, 192.168.1.20.

By using the Wireless Access Point's built-in DHCP (Dynamic Host Configuration Protocol) server, you are allowing the Wireless Access Point to handle all the IP addressing on your Local Area Network (LAN). This can save you much of the time and hassle of setting up your network. If you have a server on your network that requires a static IP address, you may still use the "DHCP Server" and manually assign a static IP address to your server. (Default: Disable)

Encryption

Wired Equivalent Privacy (WEP) is implemented in this device to prevent unauthorized access to your wireless network. The WEP setting must be the same on each client in your wireless network. For more secure data transmission, you may set the WEP to prevent unauthorized access to your wireless network.

SMC Networks Advanced Setup Home Logout

- Identification
- Channel
- Performance
- Synchronization
- Transmit Threshold
- TCP/IP Settings
- Encryption**
- SNMP
- System

Encryption

You may set the Wired Equivalency Privacy (WEP) configurations of the access point.

Authentication Type
☒ Open System ☐ Shared Key

Standard WEP Setup
 For 64 bit WEP, enter 10 hexadecimal digits
 For 128 bit WEP, enter 26 hexadecimal digits
 For 152 bit WEP, enter 32 hexadecimal digits

- WEP: ☒ Durable ☐ Enable WEP
- Default Shared Key: ☒ 1 ☐ 2 ☐ 3 ☐ 4

Shared Key	Encryption Key	Key Size
Shared Key 1:	<input type="text"/>	64 bit ▼
Shared Key 2:	<input type="text"/>	64 bit ▼
Shared Key 3:	<input type="text"/>	64 bit ▼
Shared Key 4:	<input type="text"/>	64 bit ▼

Advanced WEP Setup
 In addition to the standard WEP key, 60 per station unique keys also supported. You may add the unique key ID which starts from 5 and ends at 64.

Access Control List Setup
 Set the MAC Address Filter.

Unique Key	Encryption Key	Key Size
5 ▼	<input type="text"/>	64 bit ▼

☒ Read ☐ Write ☐ Delete

ACL: ☐ Disable ☒ Enable ☐ Strict

ACL Id:	MAC Address	Key Map	permission
0	<input type="text"/>	0	<input type="radio"/> Deny <input checked="" type="radio"/> Allow

☒ Read ☐ Write ☐ Delete

Authentication Type

You may choose either the “Open System” or the “Shared Key.” (Default: Open System)

If Shared Key is enabled, the WEP should be enabled and at least one shared key should be defined. But you can enable WEP, and set the authentication type as open system.

Standard WEP Setup (WEP Default: Disable)

Default Shared Key – Choose the Shared Key that has the encryption string you prefer (Key 1~4).

64-Bit Manual Entry

Key 1~4 - Each Key ID contains 10 HEX digits. All wireless devices must have the same Key ID values to communicate.

128-Bit Manual Entry

Key ID contains 26 HEX digits. All wireless devices must have the same Key ID values to communicate.

152-Bit Manual Entry

Key ID contains 32 HEX digits. All wireless devices must have the same Key ID values to communicate.

Advanced WEP Setup

How to setup the Unique Key WEP:

1. Select a unique key (5 ~ 64)
2. Enter the encryption key and select the proper key size.
3. Click “Write” and “Apply” to save the encryption key.
4. If you want to read an encryption key, select the unique key you want to read, click “read” and “Apply” to read the encryption key.
5. If you want to delete an encryption key, select the unique key you want to delete, click “Delete” and “Apply” to delete the encryption key.

Using MAC Filter

Set the MAC filter to filter out specified MAC addresses. The Access Control List (ACL) provides a mechanism to take certain actions based on the stations MAC address. Any frames with a source or destination MAC address entered in this table will be filtered from the Access Point.

How to Setup the Access Control List:

1. Select ACL "Enable."
2. Enter an ACL ID (1 ~ 60)
3. Enter the MAC address of the station you want to setup.
4. Enter Key Map, should be one of the shared key (1 ~ 4) or one of the unique key (5 ~ 64), and choose "Allow" or "Deny." It means if the station's WEP key is the same as the Key Map you assigned, the station will allow connecting to the AP or deny connecting to the AP.
5. If you just enable the ACL, all stations that have shared keys can also connect to the AP. If you set the ACL to "Strict," only stations that MAC addresses in the ACL can connect to the AP.

SNMP

The screenshot shows the 'Advanced Setup' page for SMC Networks. On the left is a navigation menu with options: Identification, Channel, Performance, Synchronization, Transmit Threshold, TCP/IP Settings, Encryption, SNMP (highlighted with a yellow dot), and System. The main content area is titled 'SNMP' and 'Set the SNMP Community Name'. It contains a label 'SNMP:' followed by a text input field containing the word 'Public'. At the top right of the page, there are links for 'Home' and 'Logout'.

Use this screen to display and enter a community string for the Simple Network Management Protocol (SNMP). To communicate with the Access Point, the SNMP agent must first be enabled, and the Network Management Station must submit a valid community string for authentication.

System

The screenshot shows the 'Advanced Setup' page for SMC Networks, specifically the 'System' section. The left navigation menu is the same as in the previous screenshot, with 'System' now highlighted with a yellow dot. The main content area is titled 'System' and contains descriptive text about system information, password setting, and firmware updates. It features three main sections: 'Change Password' with 'New Password' and 'Confirm the New Password' input fields; 'Factory Defaults' with a 'Factory Default:' label and a 'Restore' button; and 'Upgrade Firmware' which shows the current version as 1.1.1, a 'Please choose new firmware file:' label with a 'Browse...' button, and a 'Start Upgrade' button. A note at the bottom states: 'It may take several minutes to upgrade the firmware please wait...'. 'Home' and 'Logout' links are visible at the top right.

Change Password

Use this screen to change the password on the Access Point.

Factory Default

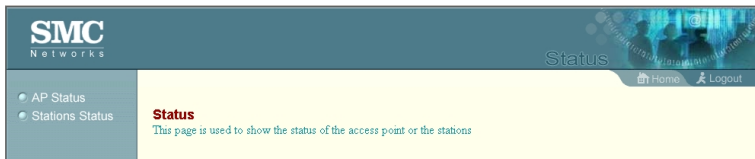
Use the “Restore” button to load the factory default configuration and reboot this device. Note that all user configured information will be lost. You will also have to re-enter the password to regain management access to this device.

Upgrade Firmware

Click “Browse” to locate the downloaded firmware file and press “Start Upgrade” to start the upgrade process.

For latest firmware version information, visit SMC's Web site at:
www.smc.com

Status



Clicking on the “Status” radio button on the home page displays additional information about the Access Point Status and Station Status as shown in the following section:

Access Point Status

AP Status

AP Configuration

MAC Address	00:30:F1:1B:56:CD
State	up
TransState	0
Channel	14
Turbo Mode	OFF
WEP	OFF
Authentication Type	Shared Key
Power Save Mode	OFF
RcvRate	7

AP SME

State	up
Authentication Type	Shared Key
Authentications	1
Associations	1

AP Statistics

AckSignalStrength	43	RcvSignalStrength	37
TxFragments	69153	RxFragments	346
TxDataFrames	69139	RxDataFrames	340
TxMgmtFrames	28	RxMgmtFrames	6
TxMulticastFrames	68960	RxMulticastFrames	63
TxMultiLongFrameRetries	0	FcsFailCnt	1

In the “AP Status” page, click the appropriate hyperlink to view the Access Point configuration, Access Point SME statistics (station association information), or Access Point (transmit and receive) statistics.

AP Configuration

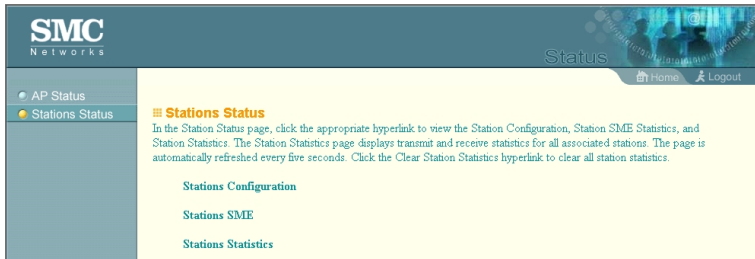
View the access point configuration

AP SME (Station Management Entity)

View the station association information

AP Statistics

View the transmit and receive statistics

Connected Station Status

In the “Station Status” page, click the appropriate hyperlink to view the station configuration, station SME statistics, and station statistics. The “Station Statistics” page displays transmit and receive statistics for all associated stations. The page is automatically refreshed every five seconds.

Station Configuration

SMC
Networks

Status

Home Logout

AP Status

Stations Status

STA Configuration

STA 1	
MAC Address	00:30:F1:1B:57:DA
State	associated
TransState	0
Authentication Type	Open System
Power Save Mode	OFF
RcvRate	7

Home | Advanced setup | Exit |

Station SME

SMC
Networks

Status

Home Logout

AP Status

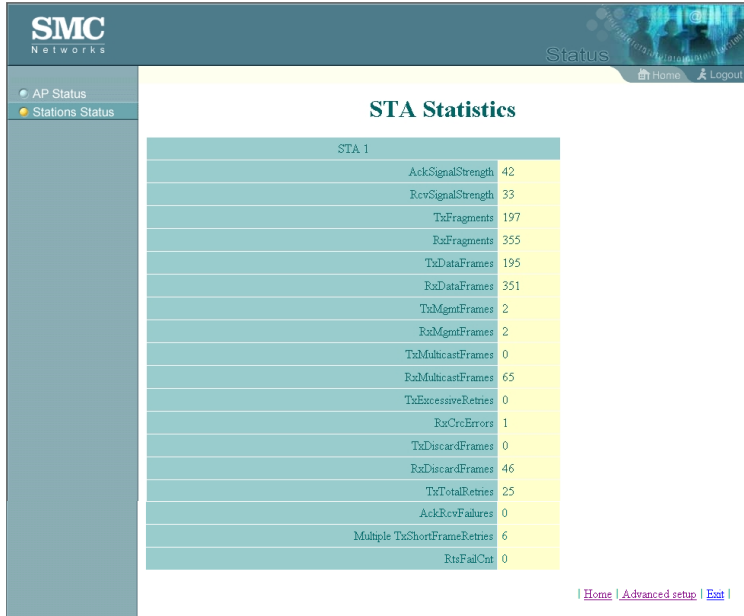
Stations Status

STA SME

STA 1	
State	associated
Authentication Type	Open System
Authentications	1
Associations	1

Home | Advanced setup | Exit |

Station Statistics



SMC Networks

Status [Home](#) [Logout](#)

● AP Status
● Stations Status

STA Statistics

STA 1	
AckSignalStrength	42
RcvSignalStrength	33
TxFragments	197
RxFragments	355
TxDataFrames	195
RxDataFrames	351
TxMgmtFrames	2
RxMgmtFrames	2
TxMulticastFrames	0
RxMulticastFrames	65
TxExcessiveRetries	0
RxCrcErrors	1
TxDiscardFrames	0
RxDiscardFrames	46
TxTotalRetries	25
AckRcvFailures	0
Multiple TxShortFrameRetries	6
RxFailCnt	0

[Home](#) | [Advanced setup](#) | [Exit](#)

NETWORK CONFIGURATION AND PLANNING

SMC's EZ Connect Wireless Solution supports a stand-alone wireless network configuration as well as an integrated configuration with 10/100 Mbps Ethernet LANs.

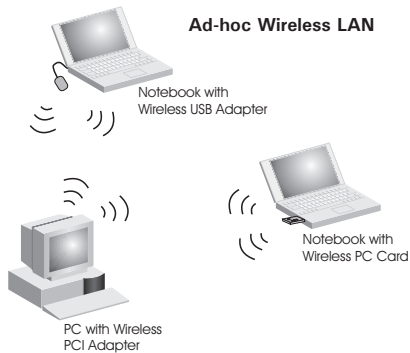
The SMC wireless network cards, adapters, access points and Wireless Access Point can be configured as:

- Ad-hoc for departmental or SOHO LANs
- Infrastructure for wireless LANs
- Infrastructure wireless LAN for roaming wireless PCs

Network Topologies

Ad-hoc Wireless LAN (no AP or Bridge)

An ad-hoc wireless LAN consists of a group of computers, each equipped with a wireless adapter, connected via radio signals as an independent wireless LAN. Computers in a specific ad-hoc wireless LAN must therefore be configured to the same radio channel. An ad-hoc wireless LAN can be used for a branch office or SOHO operation.

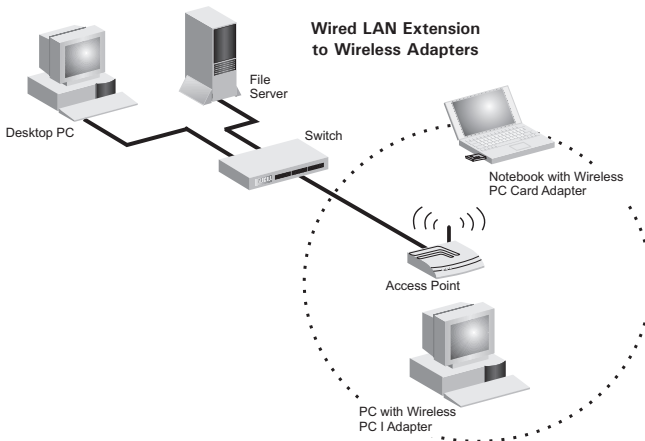


Infrastructure Wireless LAN

The SMC2755W can also provide access to a wired LAN for wireless workstations. An integrated wired/wireless LAN is called an Infrastructure configuration. A Basic Service Set (BSS) consists of a group of wireless PC users, and an access point that is directly connected to the wired LAN. Each wireless PC in this BSS can talk to any computer in its wireless group via a radio link, or access other computers or network resources in the wired LAN infrastructure via the access point.

The infrastructure configuration not only extends the accessibility of wireless PCs to the wired LAN, but also increases the effective wireless transmission range for wireless PCs by passing their signal through one or more access points.

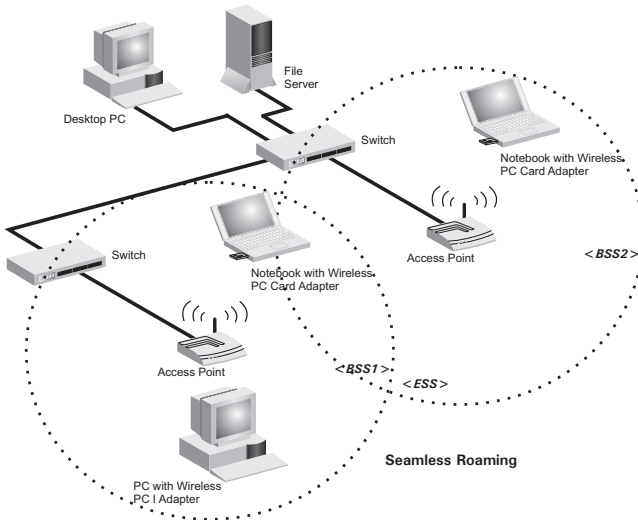
A wireless infrastructure can be used for access to a central database, or for connection between mobile workers, as shown in the following figure.



Infrastructure Wireless LAN for Roaming Wireless PCs

The Basic Service Set (BSS) is the communications domain for each Wireless Access Point. For wireless PCs that do not need to support roaming, set the domain identifier (SSID) for the wireless card to the BSS ID of the Access Point to which you want to connect. Check with your administrator for the BSS ID of the access point or bridge to which he wants you to connect.

A wireless infrastructure can also support roaming for mobile workers. More than one access point can be configured to create an Extended Service Set (ESS). By placing the access points so that a continuous coverage area is created, wireless users within this ESS can roam freely. All SMC wireless network cards and adapters and SMC2755W Wireless Access Point within a specific ESS must be configured with the same SSID.



TROUBLESHOOTING

Check the following items before you contact SMC Technical Support.

1. If mobile users do not have roaming access to the SMC2755W Wireless Access Point, check the following:

Make sure that all the SMC2755Ws and wireless devices in the ESS in which the WLAN mobile users can roam are configured to the same WEP setting, SSID, and authentication algorithm.

2. If the SMC2755W cannot be configured using the Web browser (page 10):
 - Remove power from the SMC2755W.
 - Push in the reset button located on the back of the SMC2755W to restore the factory default settings.
 - Plug the power connector back to the Access Point.

SMC Networks

802.11a Wireless Products Maximum Distance Table

Important Notice

Maximum distances posted below are actual tested distance thresholds. However, there are many variables such as barrier composition and construction and local environmental interference that may impact your actual distances and cause you to experience distance thresholds far lower than those we post below. If you have any questions or comments regarding the features or performance of this product, or if you would like information regarding our full line wireless products, you can visit us on the Web of www.smc.com or you can call us toll-free at 800.SMC.4YOU. SMC Networks stands behind this and every product we sell with a 30 day satisfaction guarantee and with a limited-lifetime warranty.

SMC 802.11a Wireless Products Maximum Distance Table									
	Speed and Distance Ranges								
Environmental Condition	72 Mbps	54 Mbps	48 Mbps	36 Mbps	24 Mbps	18 Mbps	12 Mbps	9 Mbps	6 Mbps
Outdoor Environment ¹	35 m (115 ft)	40 m (132 ft)	221 m (726 ft)	251 m (825 ft)	322 m (1056 ft)	350 m (1155 ft)	382 m (1254 ft)	453 m (1485 ft)	503 m (1650 ft)
Indoor Environment ²	12 m (40 ft)	18 m (60 ft)	25 m (82 ft)	30 m (99 ft)	35 m (115 ft)	40 m (132 ft)	45 m (149 ft)	48 m (157 ft)	50 m (165 ft)

- Notes:
1. Outdoor Environment: A line-of-sight environment with no interference or obstruction between Access Point and users.
 2. Indoor Environment: A typical office or home environment with floor to ceiling obstructions between Access Point and users.

SPECIFICATIONS

Model

SMC2755W

Maximum Channels

US & Canada: 8 (normal mode), 3 (turbo mode)

Japan: 5 (normal mode), 1 (turbo mode)

Maximum Clients

64

Operating Range

Up to 1,650 feet

Data Rate

Normal Mode: 6, 9, 12, 18, 24, 36, 48, 54 Mbps per channel

Turbo Mode: 12, 18, 24, 36, 48, 72 Mbps per channel

Network Configuration

Infrastructure

Operating Frequency

5.15 ~ 5.25 GHz (lower band) US/Canada, Japan

5.25 ~ 5.35 GHz (middle band) US/Canada

Sensitivity

Modulation/Rates	Sensitivity (dBm)
BPSK (6Mbps)	-85
BPSK (9Mbps)	-84
QPSK (12Mbps)	-83
QPSK (18Mbps)	-81
16 QAM (24Mbps)	-78
16 QAM (36Mbps)	-74
64 QAM (48Mbps)	-69
64QAM(54Mbps)	-65
BPSK Turbo (12Mbps)	-82
BPSK Turbo (18Mbps)	-81
QPSK Turbo (24Mbps)	-80
QPSK Turbo (36Mbps)	-78
16 QAM Turbo (48Mbps)	-75
16 QAM Turbo (72Mbps)	-71

Modulation

Modulation	5.15-5.25GHZ (dBm)	5.25-5.35GHZ (dBm)
BPSK(6Mbps)	16	20
BPSK(9Mbps)	16	20
QPSK(12Mbps)	16	19
QPSK(18Mbps)	16	19
16 QAM(24Mbps)	16	18
16 QAM(36Mbps)	16	18
64 QAM(48Mbps)	16	16
64 QAM(64Mbps)	14	14
BPSK Turbo(12Mbps)	16	20
BPSK Turbo(18Mbps)	16	20
QPSK Turbo(24Mbps)	16	19
QPSK Turbo(36Mbps)	16	19
16 QAM Turbo(48Mbps)	16	18
16 QAM Turbo(72Mbps)	16	18

Power supply

Input: 100-240 AC, 50-60 Hz;

Output: 3.3 V DC, 4A

Output Power

16 dBm minimum

Physical Size

8.07 x 5.35 x 1.58 in, (20.5 x 13.6 x 4 cm)

Weight

9.9 oz (280 grams)

LED Indicators

Power, Ethernet Link/Activity, Wireless Link/Activity

Network Management

HTML Web-browser interface,

Windows 98/NT/2000/Me/XP utility

Operating Systems

Windows 98/NT/2000/Me/XP

Temperature

Operating: 32 to 122 °F (0 to 50 °C),

Storage: 32 to 158 °F (0 to 70 °C)

Humidity

5% to 95% (non-condensing)

Compliances

IEC 61000-4-2/3/4/6/11

EZ CONNECT™ 802.11A WIRELESS ACCESS POINT

Emissions

ETS 300 328

RCR STD-33A

Safety

CSA/NTRL (CSA 22.2 No. 950 & UL 1950)

EN60950 (TÜV/GS), IEC60950 (CB)

Standards

IEEE 802.3 10BASE-T, IEEE 802.3u 100BASE-TX, IEEE 802.11a

Warranty

Limited Lifetime

TERMINOLOGY

The following is a list of terminology that is used in this document.

Access Point – An internetworking device that seamlessly connects wired and wireless networks.

Ad-Hoc – An Ad-Hoc wireless LAN is a group of computers each with LAN adapters, connected as an independent wireless LAN.

Backbone – The core infrastructure of a network. The portion of the network that transports information from one central location to another central location where it is unloaded onto a local system.

Base Station – In mobile telecommunications, a base station is the central radio transmitter/receiver that maintains communications with the mobile radiotelephone sets within its range. In cellular and personal communications applications, each cell or micro-cell has its own base station; each base station in turn is interconnected with other cells' bases.

BSS – BSS stands for “Basic Service Set.” It is an Access Point and all the LAN PCs that are associated with it.

CSMA/CA – Carrier Sense Multiple Access with Collision Avoidance.

ESS – ESS (ESS-ID, SSID) stands for “Extended Service Set.” More than one BSS is configured to become an Extended Service Set. LAN mobile users can roam between different BSSs in an ESS (ESS-ID, SSID).

Ethernet – A popular local area data communications network, which accepts transmission from computers and terminals. Ethernet operates on a 10 Mbps base band transmission rate, using a shielded coaxial cable or over shielded twisted pair telephone wire.

Infrastructure – An integrated wireless and wired LAN is called an Infrastructure configuration.

Roaming – A wireless LAN mobile user moves around an ESS and maintains a continuous connection to the Infrastructure network.

RTS Threshold – Transmitters contending for the medium may not be aware of each other. RTS/CTS mechanism can solve this “Hidden Node Problem.” If the packet size is smaller than the preset RTS Threshold size, the RTS/CTS mechanism will NOT be enabled.

WEP – “Wired Equivalent Privacy” is based on the use of 64-bit, 128-bit or 152-bit keys and the popular RC4 encryption algorithm. Wireless devices without a valid WEP key will be excluded from network traffic.

FOR TECHNICAL SUPPORT, CALL:

From U.S.A. and Canada (24 hours a day, 7 days a week)
(800) SMC-4-YOU; (949) 707-2400; (949) 707-2460 (Fax)
From Europe (8:00 AM - 5:30 PM UK Greenwich Mean Time)
44 (0) 1188 748740; 44 (0) 1189 748741 (Fax)

INTERNET

E-mail address:

techsupport@smc.com

tech.support@smc-europe.com

Driver updates:

http://www.smc.com/index.cfm?action=tech_support_drivers_downloads

World Wide Web:

<http://www.smc.com/>

FOR LITERATURE OR ADVERTISING RESPONSE, CALL:

U.S.A. and Canada:	(800) SMC-4-YOU;	Fax (949) 707-2460
Spain:	34-93-477-4920;	Fax 34-93-477-3774
UK:	44 (0) 1188 748700;	Fax 44 (0) 1189 748701
Southern Europe:	33 (1) 41.18.68.68;	Fax 33 (1) 41.18.68.69
Central/Eastern Europe:	49 (0) 89 92861-130;	Fax 49 (0) 89 92861-230
Nordic:	+46 (0) 868 70 700;	Fax +46 (0) 887 62 62
Middle East:	971-48818410;	Fax 971-48817993
South Africa:	+27.11.314.1133;	Fax +27.11.314.9133
PRC:	86-10-6235-4958;	Fax 86-10-6235-4962
Taiwan:	886-2-2659-9669;	Fax 886-2-2659-9666
Asia Pacific:	(65) 238 6556;	Fax (65) 238 6466
Korea:	82-2-553-0860;	Fax 82-2-553-7202
Japan:	81-45-224-2329;	Fax 81-45-224-2344
Australia:	61-2-9416-0437;	Fax 61-2-9416-0474
India:	91-22-8204437;	Fax 91-22-8204443

SMC[®]

Networks

6 Hughes

Irvine, CA 92618

Phone: (949) 707-2400

Model Number: SMC2755W

Pub #: 150000013800A

Part No: 01-111320-006

Revision Number: F1.1.1 E122001-R01